

## RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Nippon Shokubai Kagaku	1992			JP 419561 A	
Nof Corporation	1998			JP 10114800 A	HCAPLUS
Shionogi & Co Ltd				EP 141627 A	HCAPLUS
Shionogi & Co Ltd	1985			JP 6091983 A	

L82 ANSWER 19 OF 70 HCAPLUS, COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:215700 HCAPLUS

DOCUMENT NUMBER: 132:262394

TITLE: Polymer/enzyme-conjugate and polymer/enzyme/antibody-conjugate for enzyme immunoassay

INVENTOR(S): Sakaki, Shujiro; Yamada, Satoru; Shudo, Kenshiro; Nakabayashi, Nobuo; Ishihara, Kazuhiko

PATENT ASSIGNEE(S): Nippon Oil and Fats Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000093169	A2	20000404	JP 1998-274782	19980929
PRIORITY APPLN. INFO.:			JP 1998-274782	19980929

ED Entered STN: 04 Apr 2000

AB Polymer/enzyme-conjugate and polymer/enzyme/substance with biol. specific binding ability-conjugate are provided for the use in a highly sensitive enzyme immunoassay. This polymer/enzyme-conjugate is prepared by chemical binding an enzyme for immunol. measurement (e.g., peroxidase) with a polymer synthesized by polymerizing the monomer constituent containing a hydrophilic monomer possessing a phosphorylcholin-analog group (e.g., 2-methacryloyloxyethylphosphorylcholine (MPC) (I)) and a monomer possessing a chemical reactive group (e.g., methacrylate, 2-aminoethyl(meth)acrylate). The substance with biol. specific binding ability used for the conjugate is either antibody, biotin, avidin, or antigen. Various samples of polymer/horse radish peroxidase/biotin or IgG-conjugate prepared by this method exhibited an excellent solubility and 1.8-36 times higher sensitivity than the cases where no polymer was used to make conjugates.

IC ICM C12N011-08

ICS G01N033-532; C08F008-00; C08F220-06; C08F220-34; C08F230-02

CC 9-10 (Biochemical Methods)

Section cross-reference(s): 7

IT Immunoassay

(enzyme; polymer/enzyme-conjugate and polymer/enzyme/antibody-conjugate for enzyme immunoassay)

IT 7659-36-1, 2-Aminoethylmethacrylate 7659-38-3, 2-Aminoethylacrylate  
18358-13-9, Methacrylate, reactions 67881-98-5,  
2-Methacryloyloxyethylphosphorylcholine

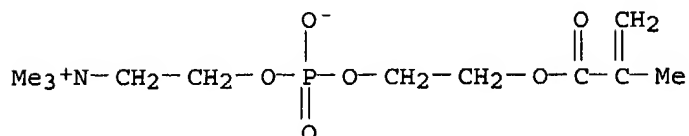
RL: RCT (Reactant); RACT (Reactant or reagent)  
(polymer/enzyme-conjugate and polymer/enzyme/antibody-conjugate for  
enzyme immunoassay)

IT 67881-98-5, 2-Methacryloyloxyethylphosphorylcholine

RL: RCT (Reactant); RACT (Reactant or reagent)  
(polymer/enzyme-conjugate and polymer/enzyme/antibody-conjugate for  
enzyme immunoassay)

RN 67881-98-5 HCAPLUS

CN 3,5,8-Trioxa-4-phosphaundec-10-en-1-aminium, 4-hydroxy-N,N,N,10-  
tetramethyl-9-oxo-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



L82 ANSWER 20 OF 70 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:599226 HCAPLUS

DOCUMENT NUMBER: 133:293102

TITLE: Water-soluble 2-methacryloyloxyethyl phosphorylcholine  
copolymer as a novel synthetic blocking reagent in  
immunoassay system

AUTHOR(S): Sakaki, Shujiro; Iwasaki, Yasuhiko; Nakabayashi,  
Nobuo; Ishihara, Kazuhiko

CORPORATE SOURCE: Institute of Biomaterials and Bioengineering, Tokyo  
Medical and Dental University, Tokyo, 101-0062, Japan

SOURCE: Polymer Journal (Tokyo) (2000), 32(8), 637-641  
CODEN: POLJB8; ISSN: 0032-3896

PUBLISHER: Society of Polymer Science, Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 29 Aug 2000

AB The purpose of this study is the development of a novel synthetic blocking  
reagent for the ELISA method. The water-soluble amphiphilic phospholipid  
polymer, poly[2-methacryloyloxyethyl phosphorylcholine (MPC)-co-styrene  
(St)], was synthesized, and the function of the poly(MPC-co-St) as a  
blocking reagent was compared with conventional blocking reagents which  
are made of proteins such as bovine serum albumin (BSA) and casein. The  
poly(MPC-co-St) solution functioned at the same level as BSA solution and  
casein

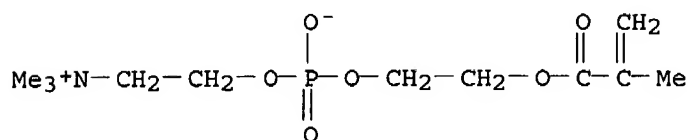
solution for preventing non-specific antibody adsorption ( $p > 0.01$ ). When the  
1.0% BSA solution and 1.0% casein solution were used as a blocking reagent, the  
remaining activity of the immobilized antibody decreased about 50% after  
20 days. On the other hand, in 0.01% and 0.1% poly(MPC-co-St) solns., the  
activity remained 76% and 91% of the initial value, resp. The effects of  
poly(MPC-co-St) on the stabilization of the immobilized antibody depended  
on its concentration. These results indicated that the poly(MPC-co-St) had the  
ability to inhibit denaturation of protein, i.e., proteins in the ELISA  
system kept their native structure. We concluded that the water-soluble  
amphiphilic poly-(MPC-co-St) is an effective synthetic blocking reagent in  
the ELISA method.

CC 9-10 (Biochemical Methods)

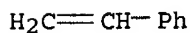
IT Immunoassay

(enzyme-linked immunosorbent assay; water-soluble 2-methacryloyloxyethyl  
phosphorylcholine copolymer as a novel synthetic blocking reagent in  
immunoassay system)

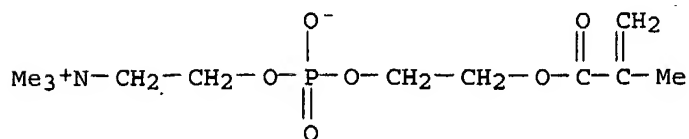
F 134483-35-5P  
 RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST  
 (Analytical study); PREP (Preparation)  
 (water-soluble 2-methacryloyloxyethyl phosphorylcholine copolymer as a  
 novel synthetic blocking reagent in **immunoassay** system)  
 IT 100-42-5, reactions 67881-98-5, 2-Methacryloyloxyethyl  
 phosphorylcholine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (water-soluble 2-methacryloyloxyethyl phosphorylcholine copolymer as a  
 novel synthetic blocking reagent in **immunoassay** system)  
 IT 134483-35-5P  
 RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST  
 (Analytical study); PREP (Preparation)  
 (water-soluble 2-methacryloyloxyethyl phosphorylcholine copolymer as a  
 novel synthetic blocking reagent in **immunoassay** system)  
 RN 134483-35-5 HCAPLUS  
 CN 3,5,8-Trioxa-4-phosphaundec-10-en-1-aminium, 4-hydroxy-N,N,N,10-  
 tetramethyl-9-oxo-, inner salt, 4-oxide, polymer with ethenylbenzene (9CI)  
 (CA INDEX NAME)  
 CM 1  
 CRN 67881-98-5  
 CMF C11 H22 N O6 P



CM 2  
 CRN 100-42-5  
 CMF C8 H8



IT 67881-98-5, 2-Methacryloyloxyethyl phosphorylcholine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (water-soluble 2-methacryloyloxyethyl phosphorylcholine copolymer as a  
 novel synthetic blocking reagent in **immunoassay** system)  
 RN 67881-98-5 HCAPLUS  
 CN 3,5,8-Trioxa-4-phosphaundec-10-en-1-aminium, 4-hydroxy-N,N,N,10-  
 tetramethyl-9-oxo-, inner salt, 4-oxide (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anderton, B	1980	2	122	Immunol Today	
Donovan, J	1975	250	1966	J Biol Chem	HCAPLUS
Farr, A	1981	47	129	J Immunol Method	HCAPLUS
Imagawa, M	1982	4	41	J Appl Biochem	HCAPLUS
Ishihara, K	1991	25	1397	J Biomed Mater Res	HCAPLUS
Ishihara, K	1998	39	323	J Biomed Mater Res	HCAPLUS
Ishihara, K	1994	32	859	J Polym Sci Part A	HCAPLUS
Ishihara, K	1990	22	355	Polym J	HCAPLUS
Ishihara, K	1999	31	1231	Polym J	HCAPLUS
Ishikawa, E	1983	4	209	J Immunoassay	HCAPLUS
Isikawa, E	1983	18	219	Immunoenzym Tech	
Kojima, M	1991	12	121	Biomaterials	HCAPLUS
Lu, D	1991	3	127	J Biomater Sci Polym	HCAPLUS
Orci, L	1985	28	528	Diabetologia	HCAPLUS
Osborn, M	1978	77	R27	J Cell Biol	MEDLINE
Sakaki, S	1999	47	523	J Biomed Mater Res	HCAPLUS
Shaw, D	1980			Introduction to coll	
Wisdom, G	1976	22	1243	Enzyme-Immunoassay	HCAPLUS

L82 ANSWER 21 OF 70 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:274659 HCAPLUS

DOCUMENT NUMBER: 129:26995

TITLE: Polymeric solid support-immobilized antigen or antibody and its use

INVENTOR(S): Sakaki, Shujiro; Shudo, Kenjiro; Yamada, Akira; Matsuyama, Kazuo; Nakabayashi, Nobuo; Ishihara, Kazuhiko

PATENT ASSIGNEE(S): Nippon Oil and Fats Co., Ltd., Japan; Nakabayashi, Norio; Ishihara, Kazuhiko; Foundation for Scientific Technology Promotion

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10114800	A2	19980506	JP 1996-271126	19961014

PRIORITY APPLN. INFO.: JP 1996-271126 19961014

ED Entered STN: 13 May 1998

AB The disclosed antigens or antibodies are coupled to polymeric solid support through phosphorylcholine groups and used for immunoassay. The phosphorylcholine-containing polymer is e.g. polymer comprising 2-methacryloyloxyethyl-2'-(trimethylammonio)ethylphosphate (MCP). Copolymers of MCP and Bu methacrylate, methylmethacrylate or 2-hydroxyethyl methylmethacrylate were prepared, coated with anti-mouse antibody for immunoassay.

IC ICM C07K017-08

ICS G01N033-543; C07K016-00

CC 15-2 (Immunochemistry)

Section cross-reference(s): 9

IT Immunoassay

(polymeric solid support-immobilized antigen or antibody and its use)

IT 67881-98-5DP, polymers and copolymers 67882-00-2P

125275-25-4P 134483-35-5P 148569-41-9P